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EXAMINER

DESAI, NAISHADH N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,621	Applicant(s) BOTT ET AL.	
	Examiner NAISHADH N. DESAI	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25-48 is/are pending in the application.
- 4a) Of the above claim(s) 44-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 25-27,29-30,32,34-37,41 are rejected under 35 U.S.C. 102(b) as being anticipated by Kondo et al (US 5900687).

1. Regarding claim 25, Kondo et al teaches:

An electric machine comprising (abstract):

a rotor (abstract)),

a stator having at least one winding system constructed of a plurality of coils, each coil having wiring strands with ends (Fig 1), and

at least one circuit support disposed on an end face of the stator (Fig 1,7) and formed as a support element with channels (Fig 2,7),

wherein the ends of the wiring strands are fixed by the at least one circuit support so as to interconnect the plurality of coils in a predetermined wiring pattern (Figs 1 and 2).

2. Regarding claim 26, Kondo et al teaches:

Art Unit: 2834

The electric machine of claim 25, wherein the stator comprises a plurality of teeth and the winding system comprises toothed coils, and wherein each of the toothed coils surrounds a corresponding tooth of the stator (Figs 1-6).

3. Regarding claim 27, Kondo et al teaches:

The electric machine of claim 26, further comprising a support positioned on a corresponding tooth, with each of the toothed coils being arranged on a corresponding support (Figs 1 and 2).

4. Regarding claim 29, Kondo et al teaches that the at least one circuit support further includes functional elements for attaching, contacting, and routing wires of current-carrying elements (abstract and Figs 1 and 2).

5. Regarding claim 30, Kondo et al teaches that the circuit support is formed as a single piece (Fig 1,7 and 2,7).

6. Regarding claim 32, Kondo et al teaches that the circuit support provides interconnectability in one or several wiring planes (abstract and Figs 1-2).

7. Regarding claim 34:

The electric machine of claim 25, wherein the circuit support is produced as an injection molded plastic part.

Art Unit: 2834

8. Regarding claim 35:

The electric machine of claim 25, wherein the circuit support is produced in MID (Molded Interconnected Device) technology or lead-frame technology.

In regards to claims 34 and 35, this limitation is a product-by process limitation. The method of forming / making the device is not germane to the issue of patentability of the device itself. This does not structurally distinguish the claim over the prior art. Therefore the method of forming / making the device has not been given patentable weight.

9. Regarding claim 36, Kondo et al teaches that the circuit support is formed as a printed circuit board with conductor tracks (Col 1 ll 23-25).

10. Regarding claim 37, Kondo et al teaches:

The electric machine of claim 36, and further comprising webs arranged between the conductor tracks of the printed circuit board or the channels for separating electrical potentials Figs 1 and 2).

11. Regarding claim 41, Kondo et al teaches that the channels of the circuit support are configured to accommodate different predetermined wiring patterns (Fig 2, elements 3-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2834

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al as applied to claim 25 above.

12. Regarding claim 31:

The electric machine of claim 29, wherein the circuit support is formed of several pieces adapted for insertion of the functional elements.

Kondo et al discloses the claimed invention except for mentioning that the circuit support is formed of several pieces instead of an integrated unit. It would have been obvious to one having ordinary skills in the art at the time the invention was made to make the integrated circuit support of several pieces instead, since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179.

The motivation to do so would be that it would reduce complexity during assemblage and cost of parts. It would also aid maintenance and repair of parts by only replacing the malfunctioning pieces versus the entire integrated circuit support.

Art Unit: 2834

It has been held that the recitation that an element is “adapted to” perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Claims 28,42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al in view of Morreale (US 4039875)

13. Regarding claim 28, Morreale (Col 2 ll 50-52) teaches that the stator comprises a sheet metal laminate, and wherein the at least one circuit support is positioned on at least several of the supports or on at least several toothed coils or on a sheet metal laminate of the stator.

Kondo et al discloses the claimed invention except for literally mentioning that the stator core is made of laminated steel sheets. Morreale (Col 2 ll 50-52 and Figs 2 and 6) teaches that the stator comprises a sheet metal laminate. It would have been obvious to one having ordinary skills in the art at the time the invention was made to make the stator of laminated steel sheets. The motivation to do so is that it would improve the efficiency of the device and ease of maintenance. It is also well known in the art to make stators of laminated steel sheets.

14. Regarding claim 42, Morreale teaches:

The electric machine of claim 27, wherein the support of the toothed coils includes at least one contact support for contacting the ends of the winding strands (Fig 5,26 and Col 3 ll 29-35).

Art Unit: 2834

15. Regarding claim 43, Morreale teaches:

The electric machine of claim 42, wherein the at least one contact support is attached to the support of the toothed coils (Fig 5,26 and Col 3 ll 29-35).

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al as applied to claim 25 above, in view of Takano et al (US 6566779).

16. Regarding claim 33:

The electric machine of claim 25, wherein the circuit support comprises one or more temperature sensors.

Kondo et al teaches the device as claimed above. Kondo et al does not teach the use of temperature sensors. Takano et al teaches the use of temperature sensors (Col 6 ll 13-16). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Kondo et al to use the temperature sensors as disclosed by Takano et al. It is well known in the art to use temperature sensors to monitor armature assemblies in order to avoid over heating and to ensure that the device is operating at optimal efficiency. The motivation to do so would be that it would allow one to monitor and detect the temperature of the stator armature assembly (Col 6 ll 15-16 of Takano et al).

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al as applied to claim 25 above, in view of Gulbrandson et al (US 5717273).

Art Unit: 2834

17. Regarding claim 38:

The electric machine of claim 25, wherein the circuit support includes a cover.

Kondo et al teaches the device as claimed above. Kondo et al does not teach the use of a cover. Gulbrandson et al teaches the use of a cover or end cap (Fig 1). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Kondo et al to use the cover as disclosed by Gulbrandson et al. The motivation to do so would be that it would provide mechanical support to the end turns of the coils and also insulation by axially, radially and diametrically separating end turns of coils within phases and end turns of coils of different phases (Col 2 ll 6-15 of Gulbrandson et al). Examiner also notes that in the alternative, the inner portion of element 7 of Kondo et al would function as a "cover" for the circuit support.

18. Regarding claim 39:

The electric machine of claim 38, wherein the cover includes means for separating electrical potentials and means for attaching the winding strands (Col 2 ll 6-15 of Gulbrandson et al).

Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al as applied to claim 25 above, in view of Gulbrandson et al (US 5717273) and further in view of Lin (US 6100614).

19. Regarding claim 40:

Art Unit: 2834

The electric machine of claim 38, wherein the cover includes a strain relief for power supply lines.

Kondo et al teaches the device as claimed above. Kondo et al does not appear to teach the use of a cover. Gulbrandson et al teaches the use of a cover or end cap (Fig 1).

Gulbrandson et al do not teach the use of a strain relief element. Lin teaches the use of a strain relief clip (abstract and Fig 4). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Kondo et al and Gulbrandson et al to use the strain relief element as disclosed by Lin.

The motivation to do so would be that it would relieve stress or strain on the wires (abstract of Lin).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

Response to Arguments

21. Applicant's arguments with respect to claims 25-43 have been considered but are moot in view of the new ground(s) of rejection.

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2834

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dang D Le/

Primary Examiner, Art Unit 2834

/Naishadh N Desai/
Examiner, Art Unit 2834